

Rocky Mountain Research Station Science You Can Use *(in 5 minutes)*

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New California Plateaus Science Synthesis: Science Supporting Dry Forest and Rangeland Planning

Revising the Lassen and Modoc Forest Plans Requires Science Synthesis

The Lassen and Modoc National Forests—together comprising over 2.8 million acres in Northeastern California where the Great Basin, the Sierra Nevada, and the Southern Cascades meet—have a blend of geology, topography, climate, and steep elevational gradients (2,000 to 14,000 feet) that has fostered immense biodiversity. Both Forests are due to revise their existing forest plans—last completed in the early 1990s. Revised forest plans will account for new conditions and incorporate the latest science. For these forest plan revisions, two other science syntheses relevant to the Lassen and Modoc National Forests have already been prepared, but they focus solely on the Cascades and the Sierra Nevada areas.

A new publication by RMRS scientist Kas Dumroese and his collaborators, called Northeastern California Plateaus Bioregion Science Synthesis (Gen. Tech. Rep. RMRS-GTR-409), is the result of a specific request made by local governments to the Pacific Southwest Regional Forester to cover ecosystems and topics not discussed in the other two syntheses. The synthesis has a Northeastern California focus on sagebrush rangeland, dry pine forestland, juniper forests, habitat and wildlife, society, and response to disturbances, particularly those related to climate. “Plateaus” appears in the title of this third synthesis because they are a common feature of the Lassen and Modoc NFs. “Together, these three syntheses complete the scientific picture that will support the Lassen and Modoc forest plan revisions, as well as other National Forests in the Western United States with similar habitats, and help meet the 2012 planning rule requirement for using the best available science,” explained Dumroese.

The New Synthesis Fills Gaps in the Scientific Picture and Will Aid in Revising Forest Plans

The Plateaus Science Synthesis covers five major topic areas that were identified during a workshop with the public that considered their input. A section on forestland focuses on understanding and



Management of dry conifer forests of the Lassen and Modoc National Forests, and the impacts of drought, are covered in the synthesis. (Photo: K. Sandusky, USDA Forest Service).

managing the dry conifer forests of the Lassen and Modoc discusses drought and goes into detail on forest management. The rangeland section covers a diverse set



of topics, including public perceptions; interactions of grazing, climate change, and carbon storage; rangeland restoration; managing threats to rangeland; and biological soil crusts. A section on habitat and wildlife considers everything from the biodiversity of dry pine forests to the importance of aquatic ecosystems—including lakes, vernal pools, fens, and swales—to sagebrush rangelands and issues related to greater sage-grouse management. The section on disturbance is focused on a changing climate and how this will interact with other disturbances that affect

these ecosystems, outlining management techniques that may be used to mitigate impacts.

Because a major focal point of forest plan revisions is management for sustainability—primarily ecological but also economic and social—one section goes into depth on the topics of rural demographics, social and economic benefits provided by the forest ecosystems, community participation in resource management and conflict resolution, and how tribes place value, interact with managers, and use fire.



This synthesis includes a section on rangeland, covering topics such as public perceptions; interactions of grazing, climate change and carbon storage; rangeland restoration; managing threats to rangeland; and biological soil crusts. (Photo: D. Davis, used with permission).

KEY MANAGEMENT CONSIDERATIONS

- The Lassen and Modoc National Forests are located where the Great Basin, the Sierra Nevada, and the Southern Cascades meet. For forest plan revisions, other science syntheses have focused on the Cascades and the Sierra Nevada and are relevant to the Lassen and Modoc National Forests but do not cover some important ecosystems and topics.
- The newly published RMRS-GTR-409 resulted from a specific request made to the Pacific Southwest Regional Forester by local governments to cover ecosystems and topics not discussed in the other two syntheses. As a result of public involvement, the scope of this synthesis focuses on dry pine forestland, sagebrush rangeland, habitat and wildlife, society, and response to disturbances, particularly climate.
- Together, these three syntheses complete the scientific picture that will inform forest plan revisions on the Lassen and Modoc, as well as other National Forests in the Western United States with similar habitats, and help meet the 2012 planning rule requirement for using the best available science.

PROJECT LEAD

Kas Dumroese is a Research Plant Physiologist with the USDA Forest Service Rocky Mountain Research Station located in Moscow, Idaho. Connect with him at <https://www.fs.usda.gov/rmrs/people/kdumroese>.

FURTHER READING

Dumroese, R.K.; Moser, W.K., eds. 2020. Northeastern California plateaus bioregion science synthesis. Gen. Tech. Rep. RMRS-GTR-409. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 210 p.

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Spies, T.A.; Stine, P.A.; Gravenmier, R.; [et al.], tech. coords. 2018. Synthesis of science to inform land management within the Northwest Forest Plan area. [Gen. Tech. Rep. PNW-GTR-966](#). Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 1020 p. 3 vol.

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